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(54) CLINICAL DECISION MODEL

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(57) **ABSTRACT**

An embodiment of the invention provides a method for determining a patient-specific probability of disease. The method collects clinical parameters from a plurality of patients to create a training database. A fully unsupervised Bayesian Belief Network model is created using data from the training database; and, the fully unsupervised Bayesian Belief Network is validated. Clinical parameters are collected from an individual patient; and, such clinical parameters are input into the fully unsupervised Bayesian Belief Network model via a graphical user interface. The patient-specific probability of the healing rate of an acute traumatic wound is output from the fully unsupervised Bayesian Belief Network model and sent to the graphical user interface for use by a clinician in pre-operative planning. The fully unsupervised Bayesian Belief Network model is updated using the clinical parameters from the individual patient and the patient-specific probability of the healing rate of an acute traumatic wound.